IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please AMEND claims 1, 3-19, 21-27, and 29-30, CANCEL claims 19, 23, 29, and 30, without prejudice or disclaimer, and ADD new claim 31 in accordance with the following:

1. (CURRENTLY AMENDED) ~~An~~ A processing apparatus, comprising:

a control unit ~~for~~ processing an operation instruction, which does not ~~prescribed~~have a functional specification, as a specific application-purpose operation instruction; ~~and~~

a specific application-purpose instruction operating unit ~~for~~ supporting a flexible pipeline structure and ~~capable of being designed to carry~~carrying out an operation of the specific application-purpose operation instruction for each application field; and

a rewritable register prescribing a number of cycles from when an instruction of said specific application-purpose instruction operating unit is issued to when it becomes possible to issue the same instructions, wherein the instruction of said specific application-purpose instruction occupies an operating unit source.

2. (ORIGINAL) The information processing apparatus according to claim 1, wherein said specific application-purpose instruction operating unit is built in as an IP.

3. (CURRENTLY AMENDED) The information processing apparatus according to claim 1, wherein

~~said control unit and said specific application-purpose instruction operating unit are provided within the processor core~~the number of cycles control to issue the same succeeding instructions.

4. (CURRENTLY AMENDED) The information processing apparatus according to claim 1, further comprising:

a rewritable register provided within a processor core of the processing apparatus, wherein

said rewritable register prescribes a number of cycles from when an instruction of said specific application-purpose instruction operating unit is issued to when it becomes possible to use a result thereof ~~is provided within a processor core~~, and said issuing of the instructions is controlled based on said number of cycles.

5. (CURRENTLY AMENDED) The information processing apparatus according to claim 1, further comprising:

a rewritable register provided within a processor core of the processing apparatus, wherein

said rewritable register prescribes a number of cycles from when an instruction of said specific application-purpose instruction operating unit is issued to when it becomes possible to issue the same instructions again, and said issuing of the same ~~succeeding~~ instructions in succession is controlled based on said number of cycles.

6. (CURRENTLY AMENDED) The information processing apparatus according to claim 1, further comprising:

a flag provided within a processor core of the processing apparatus,

wherein said flag changes over between a case where ~~the~~ a number of cycles, which is prescribed from when an instruction of said specific application-purpose instruction operating unit is issued to when it becomes possible to issue the same ~~succeeding~~ instructions in succession, becomes the same as ~~the~~ another number of cycles, which is prescribed from when ~~an~~ the instruction of the specific application-purpose instruction operating unit is issued to when it becomes possible to use a result thereof, and a case where it is possible to issue the same ~~succeeding~~ instructions in succession in each cycle, and said issuing of the instructions is controlled based on the flag.

7. (CURRENTLY AMENDED) An information processing apparatus which detects an operation exception that ~~may occur~~occurs during an execution of a specific application-purpose operation instruction and carries out an exceptional processing when the operation exception is detected, said information processing apparatus comprising:

a saving unit ~~which saves~~saving a context after the execution of a program has been interrupted;

a confirmation unit ~~which confirms~~confirming whether or not ~~an~~ the operation exception has been detected during the execution of the specific application-purpose operation instruction;

an exception processing unit ~~which carries~~carrying out ~~an~~ the exceptional processing when ~~an~~ the operation exception is detected during the execution of ~~a~~ the specific application-purpose operation instruction; and

a return unit ~~which returns~~returning from an interruption.

8. (CURRENTLY AMENDED) The information processing apparatus according to claim 7, further comprising:

a second confirmation unit ~~which confirms~~confirming whether or not ~~the~~ an operation state has been set to a state in which the operation exception, which occurs during the execution of a specific application-purpose operation instruction, can be detected.

9. (CURRENTLY AMENDED) The information processing apparatus according to claim 7, further comprising:

a third confirmation unit ~~which confirms~~confirming whether an instruction for breaking is the specific application-purpose operation instruction.

10. (CURRENTLY AMENDED) The information processing apparatus according to claim 7, further comprising:

a memory ~~which stores~~storing a value, which indicates detection of the operation exception during the execution of the specific application-purpose operation instruction, ~~and~~wherein

it is confirmed whether an operation exception has been detected or not by referring to the content of said memory.

11. (CURRENTLY AMENDED) An exception processing method of a specific application-purpose operation instruction ~~for~~ detecting an operation exception which occurs during execution of a specific application-purpose operation instruction and ~~for~~ carrying out an exceptional processing when the operation exception is detected, the exception processing method comprising ~~the steps of~~:

saving a context after ~~the~~ an execution of a program has been interrupted;

confirming whether the operation exception has been detected during the execution of

the specific application-purpose operation instruction;

carrying out the exceptional processing when it is confirmed that the operation exception has been detected during the execution of ~~a~~ the specific application-purpose operation instruction; and

returning from an interruption.

12. (CURRENTLY AMENDED) The exception processing method according to claim 11, further comprising ~~the step of~~:

confirming whether the operation state has been set to a state in which the operation exception, which occurs during the execution of a specific application-purpose operation instruction, can be detected.

13. (CURRENTLY AMENDED) The exception processing method according to claim 11, further comprising ~~the step of~~:

confirming whether an instruction for breaking is the specific application-purpose operation instruction.

14. (CURRENTLY AMENDED) The exception processing method according claim 11, further comprising ~~the step of~~:

storing a value, which indicates the detection of the operation exception during the execution of the specific application-purpose operation instruction, in a memory, and confirming whether an operation exception has been detected or not by referring to the content of said memory.

15. (CURRENTLY AMENDED) The exception processing method according to claim 12, further comprising ~~the step of~~:

storing a value in a register or a flag, ~~said value indicates~~ indicating that the operation state has been set to a state ~~that an~~where the operation exception, ~~that occurs~~which occurs during the execution of a specific application-purpose operation instruction, ~~can be~~is detected, and

confirming whether the operation state has been set to ~~a~~ the state ~~that an~~where the operation exception is detected ~~or not,~~ by referring to said register or said flag.

16. (CURRENTLY AMENDED) The exception processing method according to claim 12, ~~wherein~~further comprising:

~~there is provided~~generating an instruction ~~for~~ setting a state, which indicates ~~that an~~that the operation exception that occurs during the execution of the specific application-purpose operation instruction, is detected~~,~~; and ~~it is confirmed~~

confirming whether ~~an~~ the instruction is the instruction for setting ~~a~~ the state, which indicates that the ~~that an~~ operation exception that occurs during the execution of the specific application-purpose operation instruction, is detected.

17. (CURRENTLY AMENDED) The exception processing method according to claim 12, further comprising ~~the step of~~:

storing a value in a register or a flag~~, said value indicates~~ indicating that an instruction address, which ~~that~~ has interrupted the execution of a program, is ~~for detecting~~ to detect ~~an~~ the operation exception that occurs during the execution of ~~a~~ the specific application-purpose operation instruction ~~can be detected~~, and

confirming whether the operation state has been set to a state ~~that an~~indicating whether the operation exception is detected or not, by referring to the content of said register or said flag.

18. (CURRENTLY AMENDED) The exception processing method according to claim 12, further comprising ~~the step of~~:

storing a value which indicates a breakpoint ~~for detecting an~~to detect the operation exception that occurs during the execution of the specific application-purpose operation instruction in a memory, and

confirming whether the operation state has been set to ~~a~~ the state ~~that an~~where the operation exception is detected ~~or not~~, by referring to the content of said memory.

19. CANCELLED

20. (CURRENTLY AMENDED) An information processing apparatus having a specific application-purpose operation instruction, said information processing apparatus comprising:

an operation exception detection flag indicating whether an operation exception has been detected;

a specific application-purpose operation instruction executing unit setting said operation exception detection flag to a valid state when the operation exception has been detected during the execution of the specific application-purpose operation instruction; and

a flag control unit which notifies an interruption control unit that an interruption due to the operation exception of the specific application-purpose operation instruction is to be generated, when said operation exception detection flag has been set to the valid state during the execution of a trap instruction to generate the interruption,

wherein

said interruption control unit carries out a control relating to the generation of an interruption, when said interruption control unit has received a notice that the interruption is generated, and~~The information processing apparatus according to claim 19, wherein~~

when said flag control unit has received an operation exception detection flag invalidate instruction, said flag control unit invalidates said operation exception detection flag.

21. (CURRENTLY AMENDED) An information processing apparatus having a specific application-purpose operation instruction, said information processing apparatus comprising:

an operation exception detection flag indicating whether an operation exception has been detected;

a specific application-purpose operation instruction executing unit setting said operation exception detection flag to a valid state when the operation exception has been detected during the execution of the specific application-purpose operation instruction; and

a flag control unit which notifies an interruption control unit that an interruption due to the operation exception of the specific application-purpose operation instruction is to be generated, when said operation exception detection flag has been set to the valid state during the execution of a trap instruction to generate the interruption,

wherein said interruption control unit carries out a control relating to the generation of an interruption, when said interruption control unit has received a notice that the interruption is generated, and ~~The information processing apparatus according to claim 19, wherein~~

when said flag control unit has received an operation exception detection flag read instruction, said flag control unit reads the value of said operation exception detection flag.

22. (CURRENTLY AMENDED) An information processing apparatus having a

specific application-purpose operation instruction, said information processing apparatus comprising:

an operation exception detection flag indicating whether an operation exception has been detected;

a specific application-purpose operation instruction executing unit setting said operation exception detection flag to a valid state when the operation exception has been detected during the execution of the specific application-purpose operation instruction; and

a flag control unit which notifies an interruption control unit that an interruption due to the operation exception of the specific application-purpose operation instruction is to be generated, when said operation exception detection flag has been set to the valid state during the execution of a trap instruction to generate the interruption,

wherein said interruption control unit carries out a control relating to the generation of an interruption, when said interruption control unit has received a notice that the interruption is generated, and ~~The information processing apparatus according to claim 19, wherein~~

when said flag control unit has received an operation exception detection flag write instruction, said flag control unit writes a value into said operation exception detection flag.

23. CANCELLED

24. (CURRENTLY AMENDED) An information processing apparatus ~~that has~~having a specific application-purpose operation instruction, said information processing apparatus comprising:

an operation exception detection flag ~~which indicates~~indicating whether an operation exception has been detected;

a condition code register that is set based on a value that is held in said operation exception detection flag;

a specific application-purpose operation instruction executing unit ~~which sets~~setting said operation exception detection flag to a valid state when ~~an~~ the operation exception has been detected during ~~the~~ an execution of the specific application-purpose operation instruction;

a flag control unit ~~that sets~~setting the condition code register based on a value that is held in said operation exception detection flag; and

a branch/interruption return instruction control unit ~~which determines~~determining whether an interruption is generated or not based on a value held in said condition code register and a

value shown by ~~the~~ an instruction field~~,~~ during the execution of a trap instruction ~~for generating~~to generate ~~an~~ the interruption, and, when ~~an~~ the interruption is to be generated, ~~that notifies~~ ~~to~~notifying an interruption control unit that ~~an~~ the interruption due to ~~an~~ the operation exception of a specific application-purpose operation instruction is to be generated~~;~~, ~~and~~

wherein said interruption control unit carries out a control relating to the generation of an interruption, when said interruption control unit has received a notice that the interruption is generated.

25. (CURRENTLY AMENDED) The information processing apparatus according to claim 24, wherein

when said flag control unit ~~has received~~receives an operation exception detection flag invalidate instruction, said flag control unit invalidates said operation exception detection flag.

26. (CURRENTLY AMENDED) The information processing apparatus according to claim 24, wherein

when said flag control unit ~~has received~~receives an operation exception detection flag read instruction, said flag control unit reads the value of said operation exception detection flag.

27. (CURRENTLY AMENDED) The information processing apparatus according to claim 24, wherein

when said flag control unit ~~has received~~receives an operation exception detection flag write instruction, said flag control unit writes ~~a~~ the value into said operation exception detection flag.

28. (ORIGINAL) The information processing apparatus according to claim 24, wherein

said information processing apparatus has an instruction having an operational function specialized for an image processing as the specific application-purpose operation instruction.

29- 30 CANCELLED

31. (NEW) A processing apparatus, comprising:

a control unit processing an operation instruction, which does not have a functional specification, as a specific application-purpose operation instruction; and

a specific application-purpose instruction operating unit supporting a flexible pipeline structure and carrying out an operation of the specific application-purpose operation instruction for each application field, wherein

said control unit and said specific application-purpose instruction operating unit are provided within a processor core of the processing apparatus.